

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001301**Date Inspected:** 09-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Wu Ming Kai			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	OBG		

**Summary of Items Observed:**

Caltrans Quality Assurance Inspector Gabriel Quintana (QA Inspector) arrived at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to observe fabrication and Quality Control Inspectors (QC Inspectors) perform their duties and responsibilities as specified in the contract documents, approved plans, fabrications documents and Special Provisions for this project. While on site the QA Inspector observed the following.

Bay 3- QA Inspector randomly observed ZPMC qualified welder He Yumei Identification (ID) #048625 utilizing the Flux Core Arc Welding (FCAW) process per the approved Weld Procedure Specification (WPS) WPS-B-T-2132-2 while performing tack welding on Side Plate SP31 weld joints SP031-01-021/022 to plate PL84B. QA Inspector observed ZPMC Certified Weld Inspector (CWI) Wu Ming Kai monitoring welding and preheating parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 285 amps, welding voltage 28 volts. The weld parameters appeared to comply with contract requirements and the approved WPS.

Bay 3- QA Inspector randomly observed ZPMC qualified welder Wei Dashuai ID #051246 utilizing the FCAW process per the approved procedure WPS WPS-B-T-2132-2 while performing tack welding on Side Plate SP31 weld joints SP031-01-017/018 to plate PL84B. QA Inspector observed ZPMC Certified CWI Wu Ming Kai monitoring welding and preheating parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 275 amps, welding voltage 27 volts. The weld parameters appeared to comply with contract requirements and the approved WPS.

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Bay 3- QA Inspector randomly observed ZPMC qualified welder Sun Tiyu ID #054459 utilizing the FCAW process per the approved procedure WPS WPS-B-T-2132-2 while performing tack welding on Side Plate SP15 weld joints SP15-01-025/026 and SP031-01-019/020 to plate PL74B. QA Inspector observed ZPMC CWI Wu Ming Kai monitoring welding and preheating parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 260 amps, welding voltage 28 volts. The weld parameters appeared to comply with contract requirements and the approved WPS.

Bay 3- QA Inspector randomly observed ZPMC qualified welder Wang Zhonghua ID #053753 utilizing the Shielded Metal Arc Welding (SMAW) process per the approved procedure WPS-B-T-2112-FCM while performing tack welding on Side Plate SP4 weld joints SP004-01-005/006 to plate PL56A. QA Inspector observed ZPMC CWI Wu Ming Kai monitoring welding and preheating parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 175 amps, welding voltage 23 volts. QA Inspector observed preheat temperature 85° Celsius prior to welding. The weld parameters appeared to comply with contract requirements and the approved WPS.

Bay 3- QA Inspector randomly observed ZPMC qualified welders Li Mengquian ID #054460 and Shi Yanahao ID #053605 performing welding of splices on Rib Stiffeners utilizing the FCAW process per the approved procedure WPS-B-T-2231-B-U2-F and WPS-B-T-2233-B-U2-F. Welder Li Mengquian is in progress welding weld joints SP020-01-001/008 and SP016-01-010/009. Welder Shi Yanahao is in progress welding weld joints SP016-01-011/012 and SP028-01-012/013. QA Inspector observed that each welder was alternating between multiple to weld joints to prevent exceeding maximum temperature of 230° Celsius. QA Inspector observed QC Inspector monitor welding and preheating parameters. The weld parameters appeared to comply with contract requirements and the approved WPS.

Bay 3- QA Inspector observed four ZPMC welders using welding procedure specification WPS-B-T-2132-3 to make flux cored fillet welds on eight Side Plate stiffeners to plate PL97D at the same time using multiple flux cored welding manipulators attached to a movable gantry that runs on a track along the length of the stiffeners. The QA Inspector observed a welding travel speed of approximately 465mm per minute. Each of the welders are responsible for two of the flux cored welding heads. All welders are using 1.4 mm diameter E71T-1 rolls of electrodes that have been marked as being installed earlier today. Welder Mr. Li Zhaogian ID #048810 completed weld SP065-01-015 with a welding current of approximately 305 amps and 30.0 volts and weld SP065-01-016 with a welding current of approximately 315 amps and 31 volts. Welder Mr. Xin Meng ID #053742 completed weld SP065-01-019 with a welding current of approximately 295 amps and 29 volts and weld SP065-01-020 with a welding current of approximately 297 amps and 27 volts. Welder Li Zhaoqian ID #048810 completed weld SP065-01-023 with a welding current of approximately 297 amps and 28 volts and weld SP065-01-024 with a welding current of approximately 310 amps and 30 volts. Welder Li Xuehuy ID #058174 completed weld SP065-01-027 with a welding current of approximately 294 amps and 29 volts and weld SP065-01-028 with a welding current of approximately 278 amps and 30 volts. Items observed by the QA Inspector appear to comply with the contract requirements and the approved WPS.

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## Summary of Conversations:

General communications took place between the QA and QC Inspector.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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**Inspected By:** Quintana, Gabriel

Quality Assurance Inspector

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**Reviewed By:** Cochran, Jim

QA Reviewer